```
FFFFFFFFFFFFFFF     OOOOOOOOO     RRRRRRRRRRRR     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
FFFFFFFFFFFFFFF     OOOOOOOOO     RRRRRRRRRRRR     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
FFFFFFFFFFFFFFF     OOOOOOOOO     RRRRRRRRRRRR     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
FFF              OOO         OOO  RRR         RRR  RRR         RRR        TTT        LLL
FFF              OOO         OOO  RRR         RRR  RRR         RRR        TTT        LLL
FFF              OOO         OOO  RRR         RRR  RRR         RRR        TTT        LLL
FFF              OOO         OOO  RRR         RRR  RRR         RRR        TTT        LLL
FFF              OOO         OOO  RRR         RRR  RRR         RRR        TTT        LLL
FFF              OOO         OOO  RRR         RRR  RRR         RRR        TTT        LLL
FFFFFFFFFFFF     OOO         OOO  RRRRRRRRRRRR     RRRRRRRRRRRR           TTT        LLL
FFFFFFFFFFFF     OOO         OOO  RRRRRRRRRRRR     RRRRRRRRRRRR           TTT        LLL
FFFFFFFFFFFF     OOO         OOO  RRRRRRRRRRRR     RRRRRRRRRRRR           TTT        LLL
FFF              OOO         OOO  RRR   RRR        RRR   RRR              TTT        LLL
FFF              OOO         OOO  RRR   RRR        RRR   RRR              TTT        LLL
FFF              OOO         OOO  RRR   RRR        RRR   RRR              TTT        LLL
FFF              OOO         OOO  RRR      RRR     RRR      RRR           TTT        LLL
FFF              OOO         OOO  RRR      RRR     RRR      RRR           TTT        LLL
FFF              OOO         OOO  RRR      RRR     RRR      RRR           TTT        LLL
FFF                 OOOOOOOOO     RRR         RRR  RRR         RRR        TTT        LLLLLLLLLLLLLLL
FFF                 OOOOOOOOO     RRR         RRR  RRR         RRR        TTT        LLLLLLLLLLLLLLL
FFF                 OOOOOOOOO     RRR         RRR  RRR         RRR        TTT        LLLLLLLLLLLLLLL
```

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                                                                          L 16
**FILE**ID**FORDISPAT
```

```
FFFFFFFFFF    000000    RRRRRRRR    DDDDDDDD      IIIIII      SSSSSSSS  PPPPPPPP      AAAAAA    TTTTTTTTTT
FFFFFFFFFF    000000    RRRRRRRR    DDDDDDDD      IIIIII      SSSSSSSS  PPPPPPPP      AAAAAA    TTTTTTTTTT
FF          00      00  RR      RR  DD      DD      II      SS          PP      PP  AA      AA      TT
FF          00      00  RR      RR  DD      DD      II      SS          PP      PP  AA      AA      TT
FF          00      00  RR      RR  DD      DD      II      SS          PP      PP  AA      AA      TT
FF          00      00  RR      RR  DD      DD      II      SS          PP      PP  AA      AA      TT
FFFFFFFF    00      00  RRRRRRRR    DD      DD      II        SSSSSS    PPPPPPPP    AA      AA      TT
FFFFFFFF    00      00  RRRRRRRR    DD      DD      II        SSSSSS    PPPPPPPP    AA      AA      TT
FF          00      00  RR  RR      DD      DD      II              SS  PP          AAAAAAAAAA      TT
FF          00      00  RR  RR      DD      DD      II              SS  PP          AAAAAAAAAA      TT
FF          00      00  RR    RR    DD      DD      II              SS  PP          AA      AA      TT          ....
FF          00      00  RR    RR    DD      DD      II              SS  PP          AA      AA      TT          ....
FF            000000    RR      RR  DDDDDDDD      IIIIII    SSSSSSSS    PP          AA      AA      TT          ....
FF            000000    RR      RR  DDDDDDDD      IIIIII    SSSSSSSS    PP          AA      AA      TT          ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
0 MODULE FOR$$DISPATCH_T (%TITLE'I/O dispatch tables for FORTRAN'
0               IDENT = '1-020'         ! File: FORDISPAT.B32  Edit: SBL1020
0               ) =
1 BEGIN
1 !
1 !****************************************************************************
1 !*                                                                          *
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1 !*                                                                          *
1 !****************************************************************************
1 !
1
1 !++
1 ! FACILITY:     FORTRAN I/O
1 !
1 ! ABSTRACT:
1 !
1 !       This module contains the Global dispatch tables for the UDF (user data
1 !       formatter) level and REC (record) level for FORTRAN.
1 !       In addition it contains a routine which signals errors for invalid
1 !       statement types.
1 !
1 ! ENVIRONMENT:
1 !
1 !       AST reentrant - all OWN storage is read only
1 !
1 ! AUTHOR: Donald G. Petersen    , CREATION DATE: 07-Dec-78
1 !
1 ! MODIFIED BY:
1 !
1 !       DGP,06-Dec-78 : VERSION 1-001
1 ! 1-001 - original.  DGP 06-Dec-78
1 ! 1-002 - Add some functionality to OTS$$SIGDIS_ERR.  DGP 08-Dec-78
1 ! 1-003 - Change dispatch tables to longwords.  DGP 11-Dec-78
1 ! 1-004 - Add Basic READ to dispatch tables.  DGP 12-Dec-78
1 ! 1-005 - Change FORLNK require file to OTSLNK.  JBS 22-DEC-78
1 ! 1-006 - Signal the proper errors in the error routine.  DGP 18-Jan-79
1 ! 1-007 - Change file name to OTSDISPAT to agree with RTL standards
1 !           and internal comments.  JBS 27-JAN-1979
1 ! 1-008 - Use 32-bit addresses for externals.  JBS 27-JAN-1979
```

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1 ! 1-009 - Track SBL's changes to the statement types in the ISB.
1 !          JBS 09-FEB-1979
1 ! 1-010 - Add GET and PUT.  DGP 19-Feb-79
1 ! 1-011 - Add PRINT USING and straighten up a lot of Basic stuff.  DGP
1 !         15-May-79
1 ! 1-012 - Add MAT INPUT.  DGP 05-Jun-79
1 ! 1-013 - Add MAT PRINT.  DGP 15-Jun-79
1 ! 1-014 - Add remaining FORTRAN statement types.  Indexed REWRITE,
1 !         keyed READ, internal READ and WRITE.  SBL 18-Jun-1979
1 ! 1-015 - Remove BASIC and change name to FOR$$DISPATCH_T.  The
1 !          BASIC part is put into BAS$$DISPATCH_T.  JBS 26-JUN-1979
1 ! 1-016 - Use ISB symbols to determine table size.  SBL 12-July-1979
1 ! 1-017 - Add FOR$$SIGDIS_JSB.  JBS 01-JUL-1979
1 ! ***** - VMS V2.0
1 ! 1-018 - Add table entries for NAMELIST.  SBL 16-July-1980
1 ! 1-019 - Make UDF- and REC-level references WEAK.  JAW 25-Aug-1981
1 ! ***** - VMS V3.0
1 ! 1-020 - Add table entries for list-directed internal files.  Use
1 !         prologue file.  SBL 21-Apr-1983
1 !--
1
```

FOR
1-0

000

000
000

```
;   80          0079   1 !
;   81          0080   1 ! PROLOGUE FILE:
;   82          0081   1 !
;   83          0082   1
;   84          0083   1 REQUIRE 'RTLIN:FORPROLOG';                             ! FORTRAN definitions
;   85          0149   1
;   86          0150   1 !
;   87          0151   1 ! TABLE OF CONTENTS:
;   88          0152   1 !
;   89          0153   1
;   90          0154   1 FORWARD ROUTINE
;   91          0155   1     FOR$$SIGDIS_ERR : CALL_CCB NOVALUE,          ! Signal a dispatch error
;   92          0156   1     FOR$$SIGDIS_JSB : JSB_UDF0 NOVALUE;          ! (JSB entry point)
;   93          0157   1
;   94          0158   1 !
;   95          0159   1 ! MACROS:
;   96          0160   1 !
;   97          0161   1 !      NONE
;   98          0162   1 !
;   99          0163   1 ! EQUATED SYMBOLS:
;  100          0164   1 !
;  101          0165   1 !      NONE
;  102          0166   1 !
;  103          0167   1 ! EXTERNAL REFERENCES:
;  104          0168   1 !
;  105          0169   1
;  106          0170   1 EXTERNAL LITERAL
;  107          0171   1     OTS$_FATINTERR,
;  108          0172   1     OTS$_IO_CONCLO;
;  109          0173   1
;  110          0174   1 !+
;  111          0175   1 ! Formatting level of abstraction
;  112          0176   1 !-
;  113          0177   1
;  114          0178   1 EXTERNAL ROUTINE
;  115          0179   1     FOR$$UDF_RF0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize read formatted
;  116          0180   1     FOR$$UDF_RF1 : CALL_CCB NOVALUE WEAK,       ! format one I/O list element
;  117          0181   1     FOR$$UDF_RF9 : JSB_UDF9 NOVALUE WEAK,       ! terminate read formatted
;  118          0182   1     FOR$$UDF_WF0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize write formatted
;  119          0183   1     FOR$$UDF_WF1 : CALL_CCB NOVALUE WEAK,       ! Format one I/O list element
;  120          0184   1     FOR$$UDF_WF9 : JSB_UDF9 NOVALUE WEAK,       ! Terminate write formatted
;  121          0185   1     FOR$$UDF_RU0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize read unformatted
;  122          0186   1     FOR$$UDF_RU1 : CALL_CCB NOVALUE WEAK,       ! Transmit one I/O list element
;  123          0187   1     FOR$$UDF_RU9 : JSB_UDF9 NOVALUE WEAK,       ! Terminate read unformatted
;  124          0188   1     FOR$$UDF_WU0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize write unformatted
;  125          0189   1     FOR$$UDF_WU1 : CALL_CCB NOVALUE WEAK,       ! Transmit one I/O list element
;  126          0190   1     FOR$$UDF_WU9 : JSB_UDF9 NOVALUE WEAK,       ! Terminate write unformatted
;  127          0191   1     FOR$$UDF_RL0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize read list-directed
;  128          0192   1     FOR$$UDF_RL1 : CALL_CCB NOVALUE WEAK,       ! Transmit one I/O list element
;  129          0193   1     FOR$$UDF_RL9 : JSB_UDF9 NOVALUE WEAK,       ! Terminate read list directed
;  130          0194   1     FOR$$UDF_WL0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize write list-directed
;  131          0195   1     FOR$$UDF_WL1 : CALL_CCB NOVALUE WEAK,       ! Transmit one I/O list element
;  132          0196   1     FOR$$UDF_WL9 : JSB_UDF9 NOVALUE WEAK,       ! Terminate write list-directed
;  133          0197   1     FOR$$UDF_RN0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize read NAMELIST
;  134          0198   1                                             ! No UDF_RN1 exists
;  135          0199   1     FOR$$UDF_RN9 : JSB_UDF9 NOVALUE WEAK,       ! Terminate read NAMELIST
;  136          0200   1     FOR$$UDF_WN0 : JSB_UDF0 NOVALUE WEAK,       ! Initialize write NAMELIST
;  137          0201  1                                              ! No UDF_WN1 exists
;  138          0202  1     FOR$$UDF_WN9 : JSB_UDF9 NOVALUE WEAK;         ! Terminate write NAMELIST
;  139          0203  1
;  140          0204  1 !+
;  141          0205  1 ! Record processing level of abstraction
;  142          0206  1 !-
;  143          0207  1
;  144          0208  1 EXTERNAL ROUTINE                                 ! Read sequential formatted record
;  145          0209  1     FOR$$REC_RSF0 : JSB_REC0 NOVALUE WEAK,       ! read first record
;  146          0210  1     FOR$$REC_RSF1 : JSB_REC1 NOVALUE WEAK,       ! read all subsequent records
;  147          0211  1     FOR$$REC_RSF9 : JSB_REC9 NOVALUE WEAK,       ! terminate read write sequential
;  148          0212  1     ! formatted record
;  149          0213  1     FOR$$REC_WSF0 : JSB_REC0 NOVALUE WEAK,       ! initialize output buffer
;  150          0214  1     FOR$$REC_WSF1 : JSB_REC1 NOVALUE WEAK,       ! write all but last record
;  151          0215  1     FOR$$REC_WSF9 : JSB_REC9 NOVALUE WEAK,       ! write last record
;  152          0216  1     ! read sequential unformatted record
;  153          0217  1     FOR$$REC_RSU0 : JSB_REC0 NOVALUE WEAK,       ! read first record
;  154          0218  1     FOR$$REC_RSU1 : JSB_REC1 NOVALUE WEAK,       ! read all subsequent records
;  155          0219  1     FOR$$REC_RSU9 : JSB_REC9 NOVALUE WEAK,       ! terminate read
;  156          0220  1     ! write sequential unformatted record:
;  157          0221  1     FOR$$REC_WSU0 : JSB_REC0 NOVALUE WEAK,       ! initialize output buffer
;  158          0222  1     FOR$$REC_WSU1 : JSB_REC1 NOVALUE WEAK,       ! write all but last record
;  159          0223  1     FOR$$REC_WSU9 : JSB_REC9 NOVALUE WEAK,       ! write last record
;  160          0224  1     ! read direct (formatted: and unformatted)
;  161          0225  1     FOR$$REC_RD0 : JSB_REC0 NOVALUE WEAK,        ! read first record
;  162          0226  1     FOR$$REC_RD1 : JSB_REC1 NOVALUE WEAK,        ! read next record
;  163          0227  1     FOR$$REC_RD9 : JSB_REC9 NOVALUE WEAK,        ! terminate read
;  164          0228  1     ! write direct (formatted: and unformatted)
;  165          0229  1     FOR$$REC_WD0 : JSB_REC0 NOVALUE WEAK,        ! initialize output buffer
;  166          0230  1     FOR$$REC_WD1 : JSB_REC1 NOVALUE WEAK,        ! write next record
;  167          0231  1     FOR$$REC_WD9 : JSB_REC9 NOVALUE WEAK,        ! write last record
;  168          0232  1     ! read sequential list-directed
;  169          0233  1     FOR$$REC_RSL0 : JSB_REC0 NOVALUE WEAK,       ! read first record
;  170          0234  1     FOR$$REC_RSL1 : JSB_REC1 NOVALUE WEAK,       ! read all subsequent records
;  171          0235  1     FOR$$REC_RSL9 : JSB_REC9 NOVALUE WEAK,       ! terminate read
;  172          0236  1     ! write sequential list-directed
;  173          0237  1     FOR$$REC_WSL0 : JSB_REC0 NOVALUE WEAK,       ! initialize output buffer
;  174          0238  1     FOR$$REC_WSL1 : JSB_REC1 NOVALUE WEAK,       ! write all but last record
;  175          0239  1     FOR$$REC_WSL9 : JSB_REC9 NOVALUE WEAK,       ! write last record
;  176          0240  1     ! read memory formatted (DECODE)
;  177          0241  1     FOR$$REC_RMF0 : JSB_REC0 NOVALUE WEAK,       ! initialize pointers to user area
;  178          0242  1     FOR$$REC_RMF1 : JSB_REC1 NOVALUE WEAK,       ! illegal
;  179          0243  1     FOR$$REC_RMF9 : JSB_REC9 NOVALUE WEAK,       ! terminate read
;  180          0244  1     ! write memory formatted (ENCODE)
;  181          0245  1     FOR$$REC_WMF0 : JSB_REC0 NOVALUE WEAK,       ! initialize output buffer to user area
;  182          0246  1     FOR$$REC_WMF1 : JSB_REC1 NOVALUE WEAK,       ! illegal
;  183          0247  1     FOR$$REC_WMF9 : JSB_REC9 NOVALUE WEAK,       ! terminate write
;  184          0248  1     FOR$$REC_RKF0 : JSB_REC0 NOVALUE WEAK,       ! read keyed formatted
;  185          0249  1     FOR$$REC_RKF1 : JSB_REC1 NOVALUE,
;  186          0250  1     FOR$$REC_RKF9 : JSB_REC9 NOVALUE,
;  187          0251  1     FOR$$REC_RKU0 : JSB_REC0 NOVALUE WEAK,       ! read keyed unformatted
;  188          0252  1     FOR$$REC_RKU1 : JSB_REC1 NOVALUE,
;  189          0253  1     FOR$$REC_RKU9 : JSB_REC9 NOVALUE,
;  190          0254  1     FOR$$REC_WXF0 : JSB_REC0 NOVALUE WEAK,       ! REWRITE indexed formatted
;  191          0255  1     FOR$$REC_WXF1 : JSB_REC1 NOVALUE,
;  192          0256  1     FOR$$REC_WXF9 : JSB_REC9 NOVALUE,
;  193          0257  1     FOR$$REC_WXU0 : JSB_REC0 NOVALUE WEAK,       ! REWRITE indexed unformatted
;  194        0258  1      FOR$$REC_WXU1 : JSB_REC1 NOVALUE,
;  195        0259  1      FOR$$REC_WXU9 : JSB_REC9 NOVALUE,
;  196        0260  1      FOR$$REC_WIF0 : JSB_REC0 NOVALUE WEAK,      ! Write internal file
;  197        0261  1      FOR$$REC_WIF1 : JSB_REC1 NOVALUE,
;  198        0262  1      FOR$$REC_WIF9 : JSB_REC9 NOVALUE,
;  199        0263  1      FOR$$REC_RIF0 : JSB_REC0 NOVALUE WEAK,      ! Read internal file
;  200        0264  1      FOR$$REC_RIF1 : JSB_REC1 NOVALUE,
;  201        0265  1      FOR$$REC_RIF9 : JSB_REC9 NOVALUE,
;  202        0266  1      FOR$$REC_WSN0 : JSB_REC0 NOVALUE WEAK,      ! Write NAMELIST
;  203        0267  1      FOR$$REC_WSN1 : JSB_REC1 NOVALUE,
;  204        0268  1                                                  ! There is no 9 level REC
;  205        0269  1                                                  ! routine for Write NAMELIST
;  206        0270  1      FOR$$REC_RSN0 : JSB_REC0 NOVALUE WEAK,      ! Read NAMELIST
;  207        0271  1      FOR$$REC_RSN1 : JSB_REC1 NOVALUE WEAK,
;  208        0272  1                                                  ! There is no 9 level REC
;  209        0273  1                                                  ! routine for Read NAMELIST
;  210        0274  1      FOR$$REC_WIL0 : JSB_REC0 NOVALUE WEAK,      ! Write internal list-directed
;  211        0275  1      FOR$$REC_WIL1 : JSB_REC1 NOVALUE,
;  212        0276  1      FOR$$REC_WIL9 : JSB_REC9 NOVALUE,
;  213        0277  1      FOR$$REC_RIL0 : JSB_REC0 NOVALUE WEAK,      ! Read internal list-directed
;  214        0278  1      FOR$$REC_RIL1 : JSB_REC1 NOVALUE,
;  215        0279  1      FOR$$REC_RIL9 : JSB_REC9 NOVALUE;
;  216        0280  1
;  217        0281  1 !
;  218        0282  1 ! OWN STORAGE:
;  219        0283  1 !
;  221        0284   1 !+
;  222        0285   1 ! GLOBAL DISPATCH VECTORS (indexed by I/O statement type numbers):
;  223        0286   1 ! Connects the first level of abstraction (UPI) to the
;  224        0287   1 ! second level (UDF). Note: The comments down the
;  225        0288   1 ! side describe the I/O statement index (UPI level) into the
;  226        0289   1 ! dispatch table rather than the external routine contained in
;  227        0290   1 ! the entry (UDF level). The entries are the name of the
;  228        0291   1 ! User data formatters (UDF level = 2nd level of abstraction) -
;  229        0292   1 ! First letter: R = READ, W = WRITE; second letter: F = formatted,
;  230        0293   1 ! W = unformatted, L = list-directed.
;  231        0294   1 ! Declare as GLOBAL rather then GLOBAL BIND because
;  232        0295   1 ! BLISS doesn't allow BIND table = ... - table).
;  233        0296   1 !-
;  234        0297   1 !+
;  235        0298   1 ! Initialization of UDF level:
;  236        0299   1 !-
;  237        0300   1
;  238        0301   1 GLOBAL
;  239        0302   1     FOR$$AA_UDF_PR0 : VECTOR [ISB$K_FORSTTYHI - ISB$K_FORSTTYLO + 2,, SIGNED]
;  240        0303   1         PSECT (_FOR$CODE) INITIAL (
;  241        0304   1                                 ! I/O on closed unit
;  242        0305   1             FOR$$SIGDIS_JSB - FOR$$AA_UDF_PR0,  ! Error
;  243        0306   1                                 ! I/O statement type:
;  244        0307   1             FOR$$UDF_WF0 - FOR$$AA_UDF_PR0,     !  WRITE sequential formatted (WSF)
;  245        0308   1             FOR$$UDF_RF0 - FOR$$AA_UDF_PR0,     ! READ sequential formatted (RSF)
;  246        0309   1             FOR$$UDF_WU0 - FOR$$AA_UDF_PR0,     ! WRITE sequential unformatted (WSU)
;  247        0310   1             FOR$$UDF_RU0 - FOR$$AA_UDF_PR0,     ! READ sequential unformatted (RSU)
;  248        0311   1             FOR$$UDF_WF0 - FOR$$AA_UDF_PR0,     ! WRITE direct formatted (WDF)
;  249        0312   1             FOR$$UDF_RF0 - FOR$$AA_UDF_PR0,     ! READ direct formatted (RDF)
;  250        0313   1             FOR$$UDF_WU0 - FOR$$AA_UDF_PR0,     ! WRITE direct unformatted (WDU)
;  251        0314   1             FOR$$UDF_RU0 - FOR$$AA_UDF_PR0,     ! READ direct unformatted (RDU)
;  252        0315   1             FOR$$UDF_WL0 - FOR$$AA_UDF_PR0,     ! WRITE sequential list-direct (WSL)
;  253        0316   1             FOR$$UDF_RL0 - FOR$$AA_UDF_PR0,     ! READ sequential list-directed (RSL)
;  254        0317   1             FOR$$UDF_WF0 - FOR$$AA_UDF_PR0,     ! ENCODE (memory formatted) (WMF)
;  255        0318   1             FOR$$UDF_RF0 - FOR$$AA_UDF_PR0,     ! DECODE (memory formatted) (RMF)
;  256        0319   1             FOR$$UDF_WF0 - FOR$$AA_UDF_PR0,     ! FORTRAN REWRITE indexed formatted (WXF)
;  257        0320   1             FOR$$UDF_RF0 - FOR$$AA_UDF_PR0,     ! FORTRAN READ keyed formatted (RKF)
;  258        0321   1             FOR$$UDF_WU0 - FOR$$AA_UDF_PR0,     ! FORTRAN REWRITE indexed unformatted (WXU)
;  259        0322   1             FOR$$UDF_RU0 - FOR$$AA_UDF_PR0,     ! FORTRAN READ keyed unformatted (RKU)
;  260        0323   1             FOR$$UDF_WF0 - FOR$$AA_UDF_PR0,     ! FORTRAN WRITE internal formatted (WIF)
;  261        0324   1             FOR$$UDF_RF0 - FOR$$AA_UDF_PR0,     ! FORTRAN READ internal formatted (RIF)
;  262        0325   1             FOR$$UDF_WN0 - FOR$$AA_UDF_PR0,     ! FORTRAN WRITE NAMELIST
;  263        0326   1             FOR$$UDF_RN0 - FOR$$AA_UDF_PR0,     ! FORTRAN READ NAMELIST
;  264        0327   1             FOR$$UDF_WL0 - FOR$$AA_UDF_PR0,     ! FORTRAN WRITE internal list-directed
;  265        0328   1             FOR$$UDF_RL0 - FOR$$AA_UDF_PR0);    ! FORTRAN READ internal list-directed
;  267          0329  1 !+
;  268          0330  1 ! Transmit a single I/O list element
;  269          0331  1 !-
;  270          0332  1
;  271          0333  1 GLOBAL
;  272          0334  1     FOR$$AA_UDF_PR1 : VECTOR [ISB$K_FORSTTYHI - ISB$K_FORSTTYLO + 2,, SIGNED]
;  273          0335  1         PSECT (_FOR$CODE) INITIAL (
;  274          0336  1             FOR$$SIGDIS_ERR - FOR$$AA_UDF_PR1,   ! I/O on closed unit error
;  275          0337  1                                 ! I/O statement type:
;  276          0338  1             FOR$$UDF_WF1 - FOR$$AA_UDF_PR1,      ! WRITE sequential formatted (WSF)
;  277          0339  1             FOR$$UDF_RF1 - FOR$$AA_UDF_PR1,      ! READ sequential formatted (RSF)
;  278          0340  1             FOR$$UDF_WU1 - FOR$$AA_UDF_PR1,      ! WRITE sequential unformatted (WSU)
;  279          0341  1             FOR$$UDF_RU1 - FOR$$AA_UDF_PR1,      ! READ sequential unformatted (RSU)
;  280          0342  1             FOR$$UDF_WF1 - FOR$$AA_UDF_PR1,      ! WRITE direct formatted (WDF)
;  281          0343  1             FOR$$UDF_RF1 - FOR$$AA_UDF_PR1,      ! READ direct formatted (RDF)
;  282          0344  1             FOR$$UDF_WU1 - FOR$$AA_UDF_PR1,      ! WRITE direct unformatted (WDU)
;  283          0345  1             FOR$$UDF_RU1 - FOR$$AA_UDF_PR1,      ! READ direct unformatted (RDU)
;  284          0346  1             FOR$$UDF_WL1 - FOR$$AA_UDF_PR1,      ! WRITE sequential list-direct (WSL)
;  285          0347  1             FOR$$UDF_RL1 - FOR$$AA_UDF_PR1,      ! READ sequential list-directed (RSL)
;  286          0348  1             FOR$$UDF_WF1 - FOR$$AA_UDF_PR1,      ! ENCODE (memory formatted) (WMF)
;  287          0349  1             FOR$$UDF_RF1 - FOR$$AA_UDF_PR1,      ! DECODE (memory formatted) (RMF)
;  288          0350  1             FOR$$UDF_WF1 - FOR$$AA_UDF_PR1,      ! FORTRAN REWRITE indexed formatted (WXF)
;  289          0351  1             FOR$$UDF_RF1 - FOR$$AA_UDF_PR1,      ! FORTRAN READ keyed formatted (RKF)
;  290          0352  1             FOR$$UDF_WU1 - FOR$$AA_UDF_PR1,      ! FORTRAN REWRITE indexed unformatted (WXU)
;  291          0353  1             FOR$$UDF_RU1 - FOR$$AA_UDF_PR1,      ! FORTRAN READ keyed unformatted (RKU)
;  292          0354  1             FOR$$UDF_WF1 - FOR$$AA_UDF_PR1,      ! FORTRAN WRITE internal formatted (WIF)
;  293          0355  1             FOR$$UDF_RF1 - FOR$$AA_UDF_PR1,      ! FORTRAN READ internal formatted (RIF)
;  294          0356  1             FOR$$SIGDIS_ERR - FOR$$AA_UDF_PR1,   ! No elements for WRITE NAMELIST
;  295          0357  1             FOR$$SIGDIS_ERR - FOR$$AA_UDF_PR1,   ! No elements for READ NAMELIST
;  296          0358  1             FOR$$UDF_WL1 - FOR$$AA_UDF_PR1,      ! FORTRAN WRITE internal list-dorected
;  297          0359  1             FOR$$UDF_RL1 - FOR$$AA_UDF_PR1);     ! FORTRAN READ internal list-directed
;   299             0360  1  !+
;   300             0361  1  ! End I/O list entry points:
;   301             0362  1  !-
;   302             0363  1
;   303             0364  1  GLOBAL
;   304             0365  1      FOR$$AA_UDF_PR9 : VECTOR [ISB$K_FORSTTYHI - ISB$K_FORSTTYLO + 2,, SIGNED]
;   305             0366  1          PSECT (_FOR$CODE) INITIAL (
;   306             0367  1              FOR$$SIGDIS_JSB - FOR$$AA_UDF_PR9,  ! I/O on closed unit error
;   307             0368  1                                      ! I/O statement type:
;   308             0369  1              FOR$$UDF_WF9 - FOR$$AA_UDF_PR9,     ! WRITE sequential formatted (WSF)
;   309             0370  1              FOR$$UDF_RF9 - FOR$$AA_UDF_PR9,     ! READ sequential formatted (RSF)
;   310             0371  1              FOR$$UDF_WU9 - FOR$$AA_UDF_PR9,     ! WRITE sequential unformatted (WSU)
;   311             0372  1              FOR$$UDF_RU9 - FOR$$AA_UDF_PR9,     ! READ sequential unformatted (RSU)
;   312             0373  1              FOR$$UDF_WF9 - FOR$$AA_UDF_PR9,     ! WRITE direct formatted (WDF)
;   313             0374  1              FOR$$UDF_RF9 - FOR$$AA_UDF_PR9,     ! READ direct formatted (RDF)
;   314             0375  1              FOR$$UDF_WU9 - FOR$$AA_UDF_PR9,     ! WRITE direct unformatted (WDU)
;   315             0376  1              FOR$$UDF_RU9 - FOR$$AA_UDF_PR9,     ! READ direct unformatted (RDU)
;   316             0377  1              FOR$$UDF_WL9 - FOR$$AA_UDF_PR9,     ! WRITE sequential list-direct (WSL)
;   317             0378  1              FOR$$UDF_RL9 - FOR$$AA_UDF_PR9,     ! READ sequential list-directed (RSL)
;   318             0379  1              FOR$$UDF_WF9 - FOR$$AA_UDF_PR9,     ! ENCODE (memory formatted) (WMF)
;   319             0380  1              FOR$$UDF_RF9 - FOR$$AA_UDF_PR9,     ! DECODE (memory formatted) (RMF)
;   320             0381  1              FOR$$UDF_WF9 - FOR$$AA_UDF_PR9,     ! FORTRAN REWRITE indexed formatted (WXF)
;   321             0382  1              FOR$$UDF_RF9 - FOR$$AA_UDF_PR9,     ! FORTRAN READ keyed formatted (RKF)
;   322             0383  1              FOR$$UDF_WU9 - FOR$$AA_UDF_PR9,     ! FORTRAN REWRITE indexed unformatted (WXU)
;   323             0384  1              FOR$$UDF_RU9 - FOR$$AA_UDF_PR9,     ! FORTRAN READ keyed unformatted (RKU)
;   324             0385  1              FOR$$UDF_WF9 - FOR$$AA_UDF_PR9,     ! FORTRAN WRITE internal formatted (WIF)
;   325             0386  1              FOR$$UDF_RF9 - FOR$$AA_UDF_PR9,     ! FORTRAN READ internal formatted (RIF)
;   326             0387  1              FOR$$UDF_WN9 - FOR$$AA_UDF_PR9,     ! FORTRAN WRITE NAMELIST
;   327             0388  1              FOR$$UDF_RN9 - FOR$$AA_UDF_PR9,     ! FORTRAN READ NAMELIST
;   328             0389  1              FOR$$UDF_WL9 - FOR$$AA_UDF_PR9,     ! FORTRAN WRITE internal list-dorectec
;   329             0390  1              FOR$$UDF_RL9 - FOR$$AA_UDF_PR9);    ! FORTRAN READ internal list-directed
;  331        0391  1 !+
;  332        0392  1 ! Dispatch tables to call record processing level of abstraction
;  333        0393  1 ! routines (REC = 3rd level). Used to connect 2nd level of
;  334        0394  1 ! abstraction (UDF) to third level of abstraction (REC).
;  335        0395  1 ! The dispatch tables are indexed by I/O statement type (1st
;  336        0396  1 ! level UPI.)
;  337        0397  1 ! Record processing routine names have the form:
;  338        0398  1 ! First letters: R = READ, W = WRITE));
;  339        0399  1 ! Second letters: S = sequential, D = direct, M = memory));
;  340        0400  1 ! third letters: F = formatted, U = unformatted, L = list-directed.
;  341        0401  1 !-
;  342        0402  1 !+
;  343        0403  1 ! Initialize entry points (read first record or setup
;  344        0404  1 ! output buffer).
;  345        0405  1 !-
;  346        0406  1
;  347        0407  1 GLOBAL
;  348        0408  1     FOR$$AA_REC_PRO : VECTOR [ISB$K_FORSTTYHI - ISB$K_FORSTTYLO + 2,, SIGNED]
;  349        0409  1         PSECT (_FOR$CODE) INITIAL (
;  350        0410  1             FOR$$SIGDIS_JSB - FOR$$AA_REC_PRO,  ! I/O on closed unit error
;  351        0411  1                                 ! I/O statement type:
;  352        0412  1             FOR$$REC_WSF0 - FOR$$AA_REC_PRO,    ! WRITE sequential formatted (WSF)
;  353        0413  1             FOR$$REC_RSF0 - FOR$$AA_REC_PRO,    ! READ sequential formatted (RSF)
;  354        0414  1             FOR$$REC_WSU0 - FOR$$AA_REC_PRO,    ! WRITE sequential unformatted (WSU)
;  355        0415  1             FOR$$REC_RSU0 - FOR$$AA_REC_PRO,    ! READ sequential unformatted (RSU)
;  356        0416  1             FOR$$REC_WD0 - FOR$$AA_REC_PRO,     ! WRITE direct formatted (WDF)
;  357        0417  1             FOR$$REC_RD0 - FOR$$AA_REC_PRO,     ! READ direct formatted (RDF)
;  358        0418  1             FOR$$REC_WD0 - FOR$$AA_REC_PRO,     ! WRITE direct unformatted (WDU)
;  359        0419  1             FOR$$REC_RD0 - FOR$$AA_REC_PRO,     ! READ direct unformatted (RDU)
;  360        0420  1             FOR$$REC_WSL0 - FOR$$AA_REC_PRO,    ! WRITE sequential list-direct (WSL)
;  361        0421  1             FOR$$REC_RSL0 - FOR$$AA_REC_PRO,    ! READ sequential list-directed (RSL)
;  362        0422  1             FOR$$REC_WMF0 - FOR$$AA_REC_PRO,    ! ENCODE (memory formatted) (WMF)
;  363        0423  1             FOR$$REC_RMF0 - FOR$$AA_REC_PRO,    ! DECODE (memory formatted) (RMF)
;  364        0424  1             FOR$$REC_WXF0 - FOR$$AA_REC_PRO,    ! FORTRAN REWRITE indexed formatted (WXF)
;  365        0425  1             FOR$$REC_RKF0 - FOR$$AA_REC_PRO,    ! FORTRAN READ keyed formatted (RKF)
;  366        0426  1             FOR$$REC_WXU0 - FOR$$AA_REC_PRO,    ! FORTRAN REWRITE indexed unformatted (WXU)
;  367        0427  1             FOR$$REC_RKU0 - FOR$$AA_REC_PRO,    ! FORTRAN READ keyed unformatted (RKU)
;  368        0428  1             FOR$$REC_WIF0 - FOR$$AA_REC_PRO,    ! FORTRAN WRITE internal formatted (WIF)
;  369        0429  1             FOR$$REC_RIF0 - FOR$$AA_REC_PRO,    ! FORTRAN READ internal formatted (RIF)
;  370        0430  1             FOR$$REC_WSN0 - FOR$$AA_REC_PRO,    ! FORTRAN WRITE NAMELIST
;  371        0431  1             FOR$$REC_RSN0 - FOR$$AA_REC_PRO,    ! FORTRAN READ NAMELIST
;  372        0432  1             FOR$$REC_WIL0 - FOR$$AA_REC_PRO,    ! FORTRAN WRITE internal list-dorected
;  373        0433  1             FOR$$REC_RIL0 - FOR$$AA_REC_PRO);   ! FORTRAN READ internal list-directec
```

```
1 !+
1 ! Intermediate transfer a record - read second and
1 ! subsequent records for this I/O statement or write
1 ! first and all but last record for this I/O statement.
1 !-
1
1 GLOBAL
1     FOR$$AA_REC_PR1 : VECTOR [ISB$K_FORSTTYHI - ISB$K_FORSTTYLO + 2,, SIGNED]
1         PSECT (_FOR$CODE) INITIAL (
1             FOR$$SIGDIS_JSB - FOR$$AA_REC_PR1,  ! I/O on closed unit error
1                                 ! I/O statement type:
1             FOR$$REC_WSF1 - FOR$$AA_REC_PR1,    ! WRITE sequential formatted (WSF)
1             FOR$$REC_RSF1 - FOR$$AA_REC_PR1,    ! READ sequential formatted (RSF)
1             FOR$$REC_WSU1 - FOR$$AA_REC_PR1,    ! WRITE sequential unformatted (WSU)
1             FOR$$REC_RSU1 - FOR$$AA_REC_PR1,    ! READ sequential unformatted (RSU)
1             FOR$$REC_WD1 - FOR$$AA_REC_PR1,     ! WRITE direct formatted (WDF)
1             FOR$$REC_RD1 - FOR$$AA_REC_PR1,     ! READ direct formatted (RDF)
1             FOR$$REC_WD1 - FOR$$AA_REC_PR1,     ! WRITE direct unformatted (WDU)
1             FOR$$REC_RD1 - FOR$$AA_REC_PR1,     ! READ direct unformatted (RDU)
1             FOR$$REC_WSL1 - FOR$$AA_REC_PR1,    ! WRITE sequential list-direct (WSL)
1             FOR$$REC_RSL1 - FOR$$AA_REC_PR1,    ! READ sequential list-directed (RSL)
1             FOR$$REC_WMF1 - FOR$$AA_REC_PR1,    ! ENCODE (memory formatted) (WMF)
1             FOR$$REC_RMF1 - FOR$$AA_REC_PR1,    ! DECODE (memory formatted) (RMF)
1             FOR$$REC_WXF1 - FOR$$AA_REC_PR1,    ! FORTRAN REWRITE indexed formatted (WXF)
1             FOR$$REC_RKF1 - FOR$$AA_REC_PR1,    ! FORTRAN READ keyed formatted (RKF)
1             FOR$$REC_WXU1 - FOR$$AA_REC_PR1,    ! FORTRAN REWRITE indexed unformatted (WXU)
1             FOR$$REC_RKU1 - FOR$$AA_REC_PR1,    ! FORTRAN READ keyed unformatted (RKU)
1             FOR$$REC_WIF1 - FOR$$AA_REC_PR1,    ! FORTRAN WRITE internal formatted (WIF)
1             FOR$$REC_RIF1 - FOR$$AA_REC_PR1,    ! FORTRAN READ internal formatted (RIF)
1             FOR$$REC_WSN1 - FOR$$AA_REC_PR1,    ! FORTRAN WRITE NAMELIST
1             FOR$$REC_RSN1 - FOR$$AA_REC_PR1,    ! FORTRAN READ NAMELIST
1             FOR$$REC_WIL1 - FOR$$AA_REC_PR1,    ! FORTRAN WRITE internal list-directed
1             FOR$$REC_RIL1 - FOR$$AA_REC_PR1);   ! FORTRAN READ internal list-directed
```

```
1 !+
1 ! End of I/O list record processing
1 !-
1
1 GLOBAL
1     FOR$$AA_REC_PR9 : VECTOR [ISB$K_FORSTTYHI - ISB$K_FORSTTYLO + 2,, SIGNED]
1         PSECT (_FOR$CODE) INITIAL (
1             FOR$$SIGDIS_JSB - FOR$$AA_REC_PR9,  ! I/O on closed unit error
1                                           ! I/O statement type:
1             FOR$$REC_WSF9 - FOR$$AA_REC_PR9,    ! WRITE sequential formatted (WSF)
1             FOR$$REC_RSF9 - FOR$$AA_REC_PR9,    ! READ sequential formatted (RSF)
1             FOR$$REC_WSU9 - FOR$$AA_REC_PR9,    ! WRITE sequential unformatted (WSU)
1             FOR$$REC_RSU9 - FOR$$AA_REC_PR9,    ! READ sequential unformatted (RSU)
1             FOR$$REC_WD9 - FOR$$AA_REC_PR9,     ! WRITE direct formatted (WDF)
1             FOR$$REC_RD9 - FOR$$AA_REC_PR9,     ! READ direct formatted (RDF)
1             FOR$$REC_WD9 - FOR$$AA_REC_PR9,     ! WRITE direct unformatted (WDU)
1             FOR$$REC_RD9 - FOR$$AA_REC_PR9,     ! READ direct unformatted (RDU)
1             FOR$$REC_WSL9 - FOR$$AA_REC_PR9,    ! WRITE sequential list-direct (WSL)
1             FOR$$REC_RSL9 - FOR$$AA_REC_PR9,    ! READ sequential list-directed (RSL)
1             FOR$$REC_WMF9 - FOR$$AA_REC_PR9,    ! ENCODE (memory formatted) (WMF)
1             FOR$$REC_RMF9 - FOR$$AA_REC_PR9,    ! DECODE (memory formatted) (RMF)
1             FOR$$REC_WXF9 - FOR$$AA_REC_PR9,    ! FORTRAN REWRITE indexed formatted (WXF)
1             FOR$$REC_RKF9 - FOR$$AA_REC_PR9,    ! FORTRAN READ keyed formatted (RKF)
1             FOR$$REC_WXU9 - FOR$$AA_REC_PR9,    ! FORTRAN REWRITE indexed unformatted (WXU)
1             FOR$$REC_RKU9 - FOR$$AA_REC_PR9,    ! FORTRAN READ keyed unformatted (RKU)
1             FOR$$REC_WIF9 - FOR$$AA_REC_PR9,    ! FORTRAN WRITE internal formatted (WIF)
1             FOR$$REC_RIF9 - FOR$$AA_REC_PR9,    ! FORTRAN READ internal formatted (RIF)
1             FOR$$SIGDIS_JSB - FOR$$AA_REC_PR9,  ! No REC9 for WRITE NAMELIST
1             FOR$$SIGDIS_JSB - FOR$$AA_REC_PR9,  ! No REC9 for READ NAMELIST
1             FOR$$REC_WIL9 - FOR$$AA_REC_PR9,    ! FORTRAN WRITE internal list-dorected
1             FOR$$REC_RIL9 - FOR$$AA_REC_PR9);   ! FORTRAN READ internal list-directed
1
```

```
1 ROUTINE FOR$$SIGDIS_ERR : CALL_CCB NOVALUE =     !.
1
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       Signal an error from the I/O dispatch process.  The error code
1 !       signalled depends on the statement type.  One statement type is
1 !       used by CLOSE to catch dispatches on a closed unit, which can
1 !       happen if the CLOSE is done as part of recursive I/O.  If the
1 !       statement type is not the one used by CLOSE, we have an error
1 !       in the RTL (an invalid statement type).
1 !       Note that, at the present time, FORTRAN does not permit
1 !       recursive I/O.
1 !
1 ! FORMAL PARAMETERS:
1 !
1 !       NONE
1 !
1 ! IMPLICIT INPUTS:
1 !
1 !       ISB$B_STTM_TYPE.rb.r            Statement type of I/O statement
1 !
1 ! IMPLICIT OUTPUTS:
1 !
1 !       NONE
1 !
1 ! ROUTINE VALUE:
1 ! COMPLETION CODES:
1 !
1 !       NONE
1 !
1 ! SIDE EFFECTS:
1 !
1 !       Signals OTS$_IO_CONCLO if the LUB is not open, or
1 !       OTS$_FATINTERR if it is.
1 !
1 !--
1
2    BEGIN
2
2    EXTERNAL REGISTER
2       CCB : REF $FOR$CCB_DECL;
2
3    IF ( NOT .CCB [LUB$V_OPENED])
2    THEN
2 !+
2 ! The file must have been closed with I/O still active on it.
2 !-
2       SIGNAL_STOP (OTS$_IO_CONCLO)
2    ELSE
2 !+
2 ! This must be an attempt to use an unimplemented feature.  It represents
2 ! an internal error in the OTS.
2 !-
2       SIGNAL_STOP (OTS$_FATINTERR);
2
2    0
```

```
: 499           0556  1     END;                                              !End of FOR$$SIGDIS_ERR

                                                                 .TITLE  FOR$$DISPATCH_T I/O dispatch tables for FORTRAN
                                                                 .IDENT  \1-020\

                                                                 .PSECT  _FOR$CODE,NOWRT,  SHR,  PIC,2

00000000* 00000000* 00000000* 00000000* 00000000* 00000000V 00000 FOR$$AA_UDF_PR0::
                                                                 .LONG   <FOR$$SIGDIS_JSB-FOR$$AA_UDF_PR0>, -
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 00018        <FOR$$UDF_WF0-FOR$$AA_UDF_PR0>, -
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 00030        <FOR$$UDF_RF0-FOR$$AA_UDF_PR0>, -
          00000000* 00000000* 00000000* 00000000* 00000000* 00048        <FOR$$UDF_WU0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RU0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WU0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RU0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WL0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RL0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WU0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RU0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RF0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WN0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RN0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_WL0-FOR$$AA_UDF_PR0>, -
                                                                         <FOR$$UDF_RL0-FOR$$AA_UDF_PR0>
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 0005C FOR$$AA_UDF_PR1::
                                                                 .LONG   <FOR$$SIGDIS_ERR-FOR$$AA_UDF_PR1>, -
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 00074        <FOR$$UDF_WFT-FOR$$AA_UDF_PRT>, -
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 0008C        <FOR$$UDF_RF1-FOR$$AA_UDF_PR1>, -
          00000000* 00000000* 00000000* 00000000* 00000000* 000A4        <FOR$$UDF_WU1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RU1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WU1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RU1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WL1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RL1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WU1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RU1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_RF1-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$SIGDIS_ERR-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$SIGDIS_ERR-FOR$$AA_UDF_PR1>, -
                                                                         <FOR$$UDF_WLT-FOR$$AA_UDF_PRT>, -
                                                                         <FOR$$UDF_RL1-FOR$$AA_UDF_PR1>
00000000* 00000000* 00000000* 00000000* 00000000* 00000000V 000B8 FOR$$AA_UDF_PR9::
```

```
FOR
Sym

FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
ISB

PSE
---
.
_FC

Pha
---
Ini
Com
Pas
Sym
Pas
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The
667
The
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Mac
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_$
_$
TO

183

The

MA(
                                                                          .LONG   <FOR$$SIGDIS_JSB-FOR$$AA_UDF_PR9>, -        :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 000D0                 <FOR$$UDF_WF9-FOR$$AA_UDF_PR9>, -           :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 000E8                 <FOR$$UDF_RF9-FOR$$AA_UDF_PR9>, -           :
          00000000* 00000000* 00000000* 00000000* 00000000* 00100                 <FOR$$UDF_WU9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RU9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WU9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RU9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WL9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RL9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WU9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RU9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RF9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WN9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RN9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_WL9-FOR$$AA_UDF_PR9>, -           :
                                                                                  <FOR$$UDF_RL9-FOR$$AA_UDF_PR9>              :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000V 00114 FOR$$AA_REC_PR0::
                                                                          .LONG   <FOR$$SIGDIS_JSB-FOR$$AA_REC_PR0>, -        :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 0012C                 <FOR$$REC_WSF0-FOR$$AA_REC_PR0>, -          :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 00144                 <FOR$$REC_RSF0-FOR$$AA_REC_PR0>, -          :
          00000000* 00000000* 00000000* 00000000* 00000000* 0015C                 <FOR$$REC_WSU0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RSU0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WD0-FOR$$AA_REC_PR0>, -           :
                                                                                  <FOR$$REC_RD0-FOR$$AA_REC_PR0>, -           :
                                                                                  <FOR$$REC_WD0-FOR$$AA_REC_PR0>, -           :
                                                                                  <FOR$$REC_RD0-FOR$$AA_REC_PR0>, -           :
                                                                                  <FOR$$REC_WSL0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RSL0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WMF0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RMF0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WXF0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RKF0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WXU0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RKU0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WIF0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RIF0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WSN0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RSN0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_WIL0-FOR$$AA_REC_PR0>, -          :
                                                                                  <FOR$$REC_RIL0-FOR$$AA_REC_PR0>             :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000V 00170 FOR$$AA_REC_PR1::
                                                                          .LONG   <FOR$$SIGDIS_JSB-FOR$$AA_REC_PR1>, -        :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 00188                 <FOR$$REC_WSF1-FOR$$AA_REC_PR1>, -          :
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 001A0                 <FOR$$REC_RSF1-FOR$$AA_REC_PR1>, -          :
          00000000* 00000000* 00000000* 00000000* 00000000* 001B8                 <FOR$$REC_WSU1-FOR$$AA_REC_PR1>, -          :
                                                                                  <FOR$$REC_RSU1-FOR$$AA_REC_PR1>, -          :
                                                                                  <FOR$$REC_WD1-FOR$$AA_REC_PR1>, -           :
                                                                                  <FOR$$REC_RD1-FOR$$AA_REC_PR1>, -           :
                                                                                  <FOR$$REC_WD1-FOR$$AA_REC_PR1>, -           :
                                                                                  <FOR$$REC_RD1-FOR$$AA_REC_PR1>, -           :
```

```
                                                                                  <FOR$$REC_WSL1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RSL1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_WMF1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RMF1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_WXF1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RKF1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_WXU1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RKU1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_WIF1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RIF1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_WSN1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RSN1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_WIL1-FOR$$AA_REC_PR1>, -
                                                                                  <FOR$$REC_RIL1-FOR$$AA_REC_PR1>
00000000* 00000000* 00000000* 00000000* 00000000* 0000000V 001CC FOR$$AA_REC_PR9::
                                                                          .LONG   <FOR$$SIGDIS_JSB-FOR$$AA_REC_PR9>, -
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 001E4                 <FOR$$REC_WSF9-FOR$$AA_REC_PR9>, -
00000000* 00000000* 00000000* 00000000* 00000000* 00000000* 001FC                 <FOR$$REC_RSF9-FOR$$AA_REC_PR9>, -
          00000000* 00000000* 0000000V 0000000V 00000000* 00214                 <FOR$$REC_WSU9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RSU9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WD9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RD9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WD9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RD9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WSL9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RSL9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WMF9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RMF9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WXF9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RKF9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WXU9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RKU9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WIF9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RIF9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$SIGDIS_JSB-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$SIGDIS_JSB-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_WIL9-FOR$$AA_REC_PR9>, -
                                                                                  <FOR$$REC_RIL9-FOR$$AA_REC_PR9>

                                                                          .EXTRN  OTS$_FATINTERR, OTS$_IO_CONCLO
                                                                          .EXTRN  FOR$$REC_RKF1, FOR$$REC_RKF9
                                                                          .EXTRN  FOR$$REC_RKU1, FOR$$REC_RKU9
                                                                          .EXTRN  FOR$$REC_WXF1, FOR$$REC_WXF9
                                                                          .EXTRN  FOR$$REC_WXU1, FOR$$REC_WXU9
                                                                          .EXTRN  FOR$$REC_WIF1, FOR$$REC_WIF9
                                                                          .EXTRN  FOR$$REC_RIF1, FOR$$REC_RIF9
                                                                          .EXTRN  FOR$$REC_WSN1, FOR$$REC_WIL1
                                                                          .EXTRN  FOR$$REC_WIL9, FOR$$REC_RIL1
                                                                          .EXTRN  FOR$$REC_RIL9
                                                                          .WEAK   FOR$$UDF_RF0, FOR$$UDF_RF1
                                                                          .WEAK   FOR$$UDF_RF9, FOR$$UDF_WF0
                                                                          .WEAK   FOR$$UDF_WF1, FOR$$UDF_WF9
                                                                          .WEAK   FOR$$UDF_RU0, FOR$$UDF_RU1
                                                                          .WEAK   FOR$$UDF_RU9, FOR$$UDF_WU0
                                                                          .WEAK   FOR$$UDF_WU1, FOR$$UDF_WU9
                                                                          .WEAK   FOR$$UDF_RL0, FOR$$UDF_RL1
                                                                          .WEAK   FOR$$UDF_RL9, FOR$$UDF_WL0
```

```
                                                                           .WEAK   FOR$$UDF_WL1, FOR$$UDF_WL9
                                                                           .WEAK   FOR$$UDF_RN0, FOR$$UDF_RN9
                                                                           .WEAK   FOR$$UDF_WN0, FOR$$UDF_WN9
                                                                           .WEAK   FOR$$REC_RSF0, FOR$$REC_RSF1
                                                                           .WEAK   FOR$$REC_RSF9, FOR$$REC_WSF0
                                                                           .WEAK   FOR$$REC_WSF1, FOR$$REC_WSF9
                                                                           .WEAK   FOR$$REC_RSU0, FOR$$REC_RSU1
                                                                           .WEAK   FOR$$REC_RSU9, FOR$$REC_WSU0
                                                                           .WEAK   FOR$$REC_WSU1, FOR$$REC_WSU9
                                                                           .WEAK   FOR$$REC_RD0, FOR$$REC_RD1
                                                                           .WEAK   FOR$$REC_RD9, FOR$$REC_WD0
                                                                           .WEAK   FOR$$REC_WD1, FOR$$REC_WD9
                                                                           .WEAK   FOR$$REC_RSL0, FOR$$REC_RSL1
                                                                           .WEAK   FOR$$REC_RSL9, FOR$$REC_WSL0
                                                                           .WEAK   FOR$$REC_WSL1, FOR$$REC_WSL9
                                                                           .WEAK   FOR$$REC_RMF0, FOR$$REC_RMF1
                                                                           .WEAK   FOR$$REC_RMF9, FOR$$REC_WMF0
                                                                           .WEAK   FOR$$REC_WMF1, FOR$$REC_WMF9
                                                                           .WEAK   FOR$$REC_RKF0, FOR$$REC_RKU0
                                                                           .WEAK   FOR$$REC_WXF0, FOR$$REC_WXU0
                                                                           .WEAK   FOR$$REC_WIF0, FOR$$REC_RIF0
                                                                           .WEAK   FOR$$REC_WSN0, FOR$$REC_RSN0
                                                                           .WEAK   FOR$$REC_RSN1, FOR$$REC_WIL0
                                                                           .WEAK   FOR$$REC_RIL0

                                                        0000 00000 FOR$$SIGDIS_ERR:
                                                                           .WORD   Save nothing                                ; 0499
                                       08          FC   AB  E8 00002           BLBS    -4(CCB), 1$                                 ; 0542
                                          00000000G   8F  DD 00006           PUSHL   #OTS$_IO_CONCLO                             ; 0547
                                                      06  11 0000C           BRB     2$                                          ;
                                          00000000G   8F  DD 0000E 1$:       PUSHL   #OTS$_FATINTERR                             ; 0553
                            00000000G  00             01  FB 00014 2$:       CALLS   #1, LIB$STOP                                ;
                                                          04 0001B           RET                                                 ; 0556

; Routine Size:  28 bytes,    Routine Base:  _FOR$CODE + 0228
```

```
1 ROUTINE FOR$$SIGDIS_JSB : JSB_UDFO NOVALUE =     !
1
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       Signal an error from the I/O dispatch process.  The error code
1 !       signalled depends on the statement type.  One statement type is
1 !       used by CLOSE to catch dispatches on a closed unit, which can
1 !       happen if the CLOSE is done as part of recursive I/O.  If the
1 !       statement type is not the one used by CLOSE, we have an error
1 !       in the RTL (an invalid statement type).
1 !       Note that, at the present time, FORTRAN does not permit
1 !       recursive I/O.
1 !
1 ! FORMAL PARAMETERS:
1 !
1 !       NONE
1 !
1 ! IMPLICIT INPUTS:
1 !
1 !       ISB$B_STTM_TYPE.rb.r            Statement type of I/O statement
1 !
1 ! IMPLICIT OUTPUTS:
1 !
1 !       NONE
1 !
1 ! ROUTINE VALUE:
1 ! COMPLETION CODES:
1 !
1 !       NONE
1 !
1 ! SIDE EFFECTS:
1 !
1 !       Signals OTS$_IO_CONCLO if the LUB is not open, or
1 !       OTS$_FATINTERR if it is.
1 !
1 !--
1
2     BEGIN
2
2     EXTERNAL REGISTER
2         CCB : REF $FOR$CCB_DECL;
2
3     IF ( NOT .CCB [LUB$V_OPENED])
2     THEN
2 !+
2 ! The file must have been closed with I/O still active on it.
2 !-
2         SIGNAL_STOP (OTS$_IO_CONCLO)
2     ELSE
2 !+
2 ! This must be an attempt to use an unimplemented feature.  It represents
2 ! an internal error in the OTS.
2 !-
2         SIGNAL_STOP (OTS$_FATINTERR);
2
2     0
```

```
;  558         0614  1     END;                                      !End of FOR$$SIGDIS_JSB



                                        08       FC   AB  E8 00000 FOR$$SIGDIS_JSB:
                                                                            BLBS     -4(CCB), 1$                              ; 0600
                                           00000000G  8F  DD 00004          PUSHL    #OTS$_IO_CONCLO                          ; 0605
                                                      06  11 0000A          BRB      2$                                       ;
                                           00000000G  8F  DD 0000C 1$:      PUSHL    #OTS$_FATINTERR                          ; 0611
                              00000000G  00           01  FB 00012 2$:      CALLS    #1, LIB$STOP                             ;
                                                          05 00019          RSB                                               ; 0614

; Routine Size:  26 bytes,    Routine Base:  _FOR$CODE + 0244


;  559         0615  1 END                                           !End of module
;  560         0616  1
;  561         0617  0 ELUDOM



                                                                      .EXTRN  LIB$STOP

;                                      PSECT SUMMARY
;
;       Name                      Bytes                      Attributes
;
;   _FOR$CODE                         606  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)



;                              Library Statistics
;
;                                             -------- Symbols --------        Pages       Processing
;       File                                  Total    Loaded    Percent       Mapped      Time
;
;   _$255$DUA28:[SYSLIB]STARLET.L32;1          9776         0          0          581       00:01.0
;   _$255$DUA28:[FORRTL.OBJ]FORLIB.L32;1        711       185         26           52       00:00.6
;   _$255$DUA28:[FORRTL.OBJ]RTLLIB.L32;1         36         0          0            8       00:00.1



;                                       COMMAND QUALIFIERS
;
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:FORDISPAT/OBJ=OBJ$:FORDISPAT MSRC$:FORDISPAT/UPDATE=(ENH$:FORDISPAT
;       )

; Size:          54 code + 552 data bytes
; Run Time:         00:10.7
; Elapsed Time:     00:32.2
; Lines/CPU Min:      3476
; Lexemes/CPU-Min: 10061
; Memory Used:  110 pages
; Compilation Complete
```

0179 AH-BT13A-SE
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